

Radioactive decay (radioactivity) the spontaneous decomposition of a nucleus to form a different nucleus

Radiocarbon dating (carbon-14 dating) a method for dating ancient wood or cloth on the basis of the radioactive decay of the nuclide C-14

Radiotracer a radioactive nuclide, introduced into an organism for diagnostic purposes, whose pathway can be traced by monitoring its radioactivity

Random error an error that has an equal probability of being high or low

Rate of decay the change per unit time in the number of radioactive nuclides in a sample

Reactant a starting substance in a chemical reaction. It appears to the left of the arrow in a chemical equation

Reactor core the part of a nuclear reactor where the fission reaction takes place

Reducing agent (electron donor) a reactant that donated electrons to another substance, reducing the oxidation state of one of its atoms

Reduction a decrease in oxidation state (a gain of electrons)

Rem a unit of radiation dosage that accounts for both the energy of the dose and its effectiveness in causing biological damage (from roentgen equivalent for *man*)

Resonance a condition occurring when more than one valid Lewis structure can be written for a particular molecule. The actual electronic structure is represented not by any one of the Lewis structures but by the average of all of them